

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 22

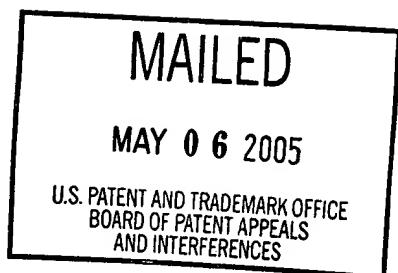
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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MAY 17 2005

DIRECTOR OFFICE
TECHNOLOGY CENTER 2000



Ex parte PATRICK TEO

Appeal No. 2005-0605
Application No. 09/378,398

ON BRIEF

Before MCQUADE, NASE and BAHR, Administrative Patent Judges.

BAHR, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-37, which are all of the claims pending in this application.

BACKGROUND

The appellant's invention relates to a camera that acquires fields of view and combines them together to form a panoramic image. Further understanding of the invention can be obtained from a reading of claim 1, which is reproduced in the opinion section of this decision.

The applied prior art

The examiner relied upon the following prior art references in rejecting the appealed claims:

Inoue	6,144,804	Nov. 7, 2000 (filed Mar. 25, 1996)
Kang et al. (Kang)	6,256,058	Jul. 3, 2001 (filed Jun. 6, 1996)
Truc et al. (Truc)	6,268,936	Jul. 31, 2001 (filed Aug. 21, 1998)
Dube et al. (Dube)	6,269,144	Jul. 31, 2001 (filed Mar. 4, 1998)
Dunton et al. (Dunton)	6,304,284	Oct. 16, 2001 (filed Mar. 31, 1998)
Yui et al. (Yui) (patent application publication)	2002/0175924	Nov. 28, 2002 (filed May 21, 1999)

The rejections

Claims 1-8, 12, 14-16, 18, 20, 23, 24, 27, 29-31 and 35-37 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Dunton.

Claims 9-11, 25 and 26 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dunton.

Claims 13 and 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dunton in view of Inoue.

Claims 17 and 21 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dunton in view of Kang.

Claims 19 and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dunton in view of Dube.

Claims 32 and 33 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dunton in view of Truc.

Claim 34 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dunton in view of Truc and Yui.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (Paper No. 18) for the examiner's complete reasoning in support of the rejections and to the brief (Paper No. 17) and reply brief (Paper No. 19) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. For the reasons which follow, we cannot sustain any of the examiner's rejections.

Claim 1 reads as follows:

1. A camera comprising:
a camera lens;
acquisition circuitry receiving images via said camera lens, for acquiring a first field of view when said camera lens

is in a first orientation and for acquiring a second field of view when said camera lens is in a second orientation; and a viewfinder displaying the second field of view when said camera lens is in the second orientation and displaying at least a portion of the first field of view at least partially composited with the second field of view.

Dunton discloses a motion sensor equipped camera for creating panoramic or surround images. To create the panoramic image, the camera takes a first image at a first position. Sensors detect camera movement including changes in orientation as the camera moves to a second position where a second image is taken. By using orientation and position data from the sensors, a processor can combine the first image and the second image to generate a comprehensive panoramic image (column 7, lines 37-43). The second image and the first image must have a sufficient amount of subject matter overlap 150 so that the processor will be able to reconstruct the overlapping regions and generate a stitched panoramic image (column 5, lines 2-6). The optimum positions are typically those with the minimum required overlap. The optimum number of degrees of rotation between the first position and the second position is determined based on the field of view which in turn depends on the focal length of the lens. In order to achieve the appropriate overlap for a manually moved camera, Dunton discloses the following:

In camera systems based on manual movement of the camera, the camera prompts the user to move in block 516. In one embodiment, the prompts may be given in the form of arrows displayed in the camera viewfinder. The

arrows prompt a user to move the camera in a particular direction, or rotate the camera to a particular orientation. The arrows may be displayed using a liquid crystal display (LCD). In one embodiment, an auto-ranging device, such as a sonar system, determines the distance from the object being imaged to the camera. The information from the auto-ranging device can be used to assist the user in keeping a camera such as the camera of FIG. 1B in a plane above a two-dimensional object 150. The distance information may also be stored to assist in combining multiple images.

A processor outputs signals through the LCD prompting the user to maintain the proper amount of overlap between sequential images. One method of measuring overlap may be accomplished by causing the processor to select a point on the subject at one edge of the field of view. The processor tracks the movement of the selected point across the field of view as the camera moves. The camera signals the user when the selected point reaches an area on the opposite edge of the field of view allowing the user to record a second image. In an alternate embodiment, a MEMS sensor may determine when a camera has been reoriented sufficiently to optimize the overlap region and justify the recording of a second image. The amount of reorientation depends on the field of view of the lens. In manually moved cameras, a visual, sound or voice signal may be used to tell the user to move the camera in a particular direction or rotate the camera to a particular orientation properly adjusting the overlap region [column 8, lines 11-42].

We appreciate the examiner's observation that the field of view displayed in the viewfinder of Dunton's camera when the camera is in the second position or orientation (the second field of view) contains some overlap or common subject matter with the field of view displayed in the viewfinder when the camera is in the first orientation or

position (the first field of view). Nevertheless, when the camera is in the second position or orientation, the display in the viewfinder comprises only the second field of view and, perhaps, arrows or other visual indicators to inform the user either how far and in which direction to move the camera to achieve the proper overlap or that the camera is in the proper position and orientation to record the next image. Dunton's camera viewfinder does not display any portion of the first field of view composited with the second field of view, as called for in claim 1. The inclusion of some common subject matter (i.e., overlap) with the first field of view in the second field of view cannot, in our opinion, fairly be characterized as display of both the second field of view and a portion of the first field of view composited with the second field of view.

In light of the above, we conclude that Dunton does not disclose each and every element recited in claim 1 and thus fails to anticipate¹ claim 1. We must therefore reverse the rejection of claim 1, as well as claims 2-8, 12, 14-16, 18, 20, 23, 24, 27, 29-31 and 35-37 which depend from claim 1, as being anticipated by Dunton.

The examiner's rejections of the remaining dependent claims under 35 U.S.C. § 103 are grounded in part on the examiner's determination that Dunton discloses a

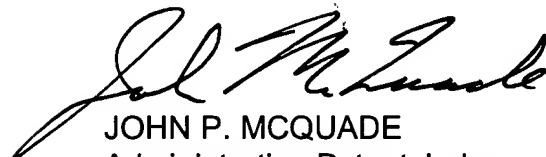
¹ Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. Scripps Clinic & Research Found. v. Genentech Inc., 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).


viewfinder displaying the second field of view when the camera is in the second orientation and displaying at least a portion of the first field of view at least partially composited with the second field of view. The above discussed lack of support in Dunton for this finding fatally taints the examiner's conclusion that the differences between the subject matter recited in claims 9-11, 13, 17, 19, 21, 22, 25, 26, 28 and 32-34 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. It thus follows that we must also reverse the rejections of claims 9-11, 25 and 26 as being unpatentable over Dunton, claims 13 and 28 as being unpatentable over Dunton in view of Inoue, claims 17 and 21 as being unpatentable over Dunton in view of Kang, claims 19 and 22 as being unpatentable over Dunton in view of Dube, claims 32 and 33 as being unpatentable over Dunton in view of Truc and claim 34 as being unpatentable over Dunton in view of Truc and Yui.


CONCLUSION

To summarize, the decision of the examiner to reject claims 1-37 is reversed.

REVERSED


JOHN P. MCQUADE
Administrative Patent Judge


JEFFREY V. NASE
Administrative Patent Judge


JENNIFER D. BAHR
Administrative Patent Judge

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